OF BUTTERFLIES, BIRDS . . . . AND MOSQUITOES
(An entomological foray to the European Arctic — June/July 1987)

By W. J. TENNENT*

In reading the accounts written by previous entomological visitors to the European Arctic, there seem to be two main difficulties with this part of the world. Firstly, the weather which is totally unreliable — and secondly the mosquitoes which are found everywhere in enormous numbers and from which there is no escape. Certainly the weather makes a nonsense of any attempt to plan a visit with any high chance of success in seeing selected species, as the season may vary by as much as several weeks either way and in some seasons certain species fail to appear at all. This, together with the distance and the expense involved, is probably why the area is not visited too often by British collectors.

I had been planning a visit for several years and eventually, after telephoning the weather centres in both Oslo and Stockholm to be told that 1987 was a 'normal' year in the far north and that there had been a fair amount of sunny weather to date, I left the UK on the 20th June, returning on the 20th July. The intention was hopefully to see the end of the early butterflies and the majority of later ones. However, like many before me, I experienced some pretty awful weather and saw relatively few butterflies; a circumstance made bearable by tremendous scenery and the prolific bird life.

In 29 days there were only six when the sun shone all day. These were the 27th June and the 13th to the 17th of July, when I had to begin my journey home. There were a further five days when the sun shone occasionally during part of the day but for the most part, even on some of the sunny days, a cold and sometimes strong wind effectively prevented butterflies from flying. On four more days butterflies were seen in single figures but on 14 days there were none seen at all.

The mosquitoes were a real nuisance, particularly on the low marshy ground, but also on the high ground where they flew even in cold conditions, easily disturbed in large numbers as one walked across the tundra. The poor weather presumably kept the numbers down as they were a lot more numerous on hot days. A strong repellant, for use on clothing as well as on exposed skin, was a necessity.

I had planned to spend most of my time in the area around Abisko, 120 miles north of the Arctic Circle in Swedish Lapland and this was where most of the butterflies were seen. However, I also went to the North Cape and to Kilpisjarvi in Finland close to the border with both Norway and Sweden where apparently (de Worms 1959: p244) many of the Arctic species are to be found. I spent three days walking the slopes of Mount Sanna and Mount Malla but the only butterflies seen were two

* 1 Middlewood Close, Flyingthorpe, Whitby, North Yorkshire.

Erebia pandrose and a single Pierid which was whisked away by the wind before it could be identified. I suspect it may have been *Colias nastes*. It was probably as well that there were not more butterflies as the area is now a National Park and a large notice (which I did not actually see until the last day) proclaimed that anyone found collecting would be relieved of both specimens and equipment!

In the far north there were snow storms and for the first time in 20 years of collecting, it was occasionally necessary to venture forth with net and gloves! Luckily, as far as clothing was concerned, I was prepared for the worst and so was still able to get out and about; the views of mountains and fjords, together with the peace and quiet of such unspoiled surroundings, made it all worthwhile. The 'midnight sun' took some getting used to. I had expected a kind of heavy dusk throughout the night but in fact there was full daylight 24 hours each day.

Abisko is said to be one of the driest places in Sweden, with an average annual rainfall of about 300mm (11.8 inches); it is particularly rich in flora and fauna although much of the area is also a National Park where collecting is not permitted. It lies at the western end of the Tornetrask, a lake some 60 km long and is overshadowed by Mount Njulla, 1169 metres above sea level. The area, like most of northern Scandinavia, is very marshy and stout walking wellingtons are a 'must'. Birch forest is widespread and is quite thick in part, giving way to tundra at about 500 metres. Many of the butterflies were to be found in clearings in the forest when conditions were favourable.

Although intended to be an entomological account, this would not be complete without a mention of other wildlife, in particular the birds. They are of great interest to the UK visitor as many winter visitors or scarce migrants to our own shores were breeding quite commonly. I stumbled on a nest of the red-spotted bluethroat (poor bird to be saddled with such a name — rather like calling the red admiral a red striped white spotted black. The Swedes call the bird the mountain nightingale — a much more appropriate name) on my first day at Abisko and subsequently found two more nests with up to six olive green mottled eggs. Small ground nesting birds were common and I came across a large number of nests, some of which had as many as eight eggs; presumably the enormous numbers of mosquitoes helped to support such large families. Birds seen commonly included brambling, wheatear, arctic redpoll, willow tit, yellow wagtail, fieldfare, redwing and of the larger birds raven, ptarmigan, arctic tern, long-tailed skua, divers, mergansers, merlin and rough-legged buzzards were regularly seen. On the tundra golden plover were always present, escorting the walker through their territory with a distinctive, piercing whistle and watching carefully from a safe distance until one reached the edge of their property where one would be handed over to the pair who owned the adjacent territory. On one memorable occasion I almost stepped on

a small plover, revealing a nest with three incredibly well camouflaged eggs. I built a small cairn nearby to guide me back to the nest in weather more suitable for photography but still had some difficulty in finding it again when the time came. On another occasion I disturbed a dotterel with young and also found a young rough-legged buzzard in a large eyrie with what must surely have been one of the best views from home of any bird.

With regard to the larger mammals, reindeer are common (and a menace on the roads further south in Sweden), as are elk although I saw none of the latter. There are small numbers of brown bear at the eastern end of the Tornetrask and the Abisko area also supports wolverine, lynx and, until recently, wolves. The only one of these last four I saw was a lynx drinking from a mountain stream near the tree line. The animal is said to be rare in Sweden and when I mentioned it at the Tourist Station, half expecting not to be believed, I was told that there had been a female and two cubs seen regularly during the last few weeks.

Tourism has overtaken, but not spoiled, Abisko since Sheldon visited more than 65 years ago (Sheldon 1911). There is a busy Tourist Station which caters for the numbers of tourists and serious hikers who arrive daily by train from Narvik in the west and Kiruna in the east. There are well planned walks in the birch forest and along the side of the Abiskojakka, a mountain torrent which has worn a deep canyon on it's way to the estuary in the Tornetrask. A scenic chairlift now goes to a cafe near the top of Mount Njulla and there are walks to Bjorkliden and Stordtdalen, several kilometres away to the west and east respectively. Altogether, it is a most pleasant spot to visit, provided one can come to terms with the weather, the mosquitoes and the inescapable fact that, by UK standards, it is *very* expensive.

An annotated list of the butterflies seen at Abisko:

Artogeia napi adalwinda Fruhst. Common from the lakeside to 920 metres. The female has a weak, fluttering flight and has been compared to the Alpine ssp *bryoniae* Hübn.; females of the northern form seem on the whole to be rather smaller.

Colias nastes werdandi Zetterstedt. One of the few successes of the visit. It was first found in small numbers in poor condition (indicating an earlier emergence in good weather) by the edge of the Tornetrask and in the marshy clearings between the Abiskojakka and the Lapp Porten on the 26th June. The following day (the first real sunny day), it was found in good condition on the eastern slopes of Mount Njulla; it was later seen higher than any other butterfly, flying in small numbers at 1100 metres near the mountain summit. By the time I left, on the 17th July, some females were still in good condition at altitude and both sexes were very tattered at low levels. It is a very variable species. From his series of 28 males and 27 females Sheldon (1911) described five new forms which have subsequently, and quite rightly, been ignored. Nevertheless, males

vary in colour from lemon yellow to almost white and there is considerable variation in the extent of black markings. A form very like a small *C. palaeno* with a regular and unmarked marginal border, was not uncommon. The best time to take this species was early in the morning when, although its flight was very fast, individuals rest and feed frequently. Later in the day it did not seem so keen to stop — and there is a limit to the number of 50 metre dashes that someone who is not a natural athlete can make! I was disappointed not to see *Colias hecla sulitelma* Aurivillius which is said to be found on the same biotope, but the poor weather presumably caused it to be much later than usual.

Colias palaeno lapponica Stdgr. I first saw a single male of this species half way up the eastern slope of Mount Njulla on the 7th July. It was next seen on the eastern side of the Abiskojakka on the 15th July and the numbers increased steadily in this location during the next two days.

Aglais urticae polaris Stgr. A single damaged but fresh looking example was seen at the edge of a car park on the way to Saltdalen on the 28th June. It looked no different to the nominate *urticae.*

Boloria napaea Hoffmannsegg. At 920 metres on Mount Njulla I took a single *Boloria* which is clearly not *aquilonaris* and is presumably therefore *napaea.* It has caused me some confusion as it is larger than *aquilonaris* and is quite well marked. Henrikson and Kreutzer (1982) remark that ssp *lapponica* Stdgr. flies in northern Scandinavia although Warren (1951) has said that *lapponica* does not exist as a subspecies of either *napaea* or *aquilonaris.*

Boloria aquilonaris scandinavica Bjorn Peterson. Several specimens of this butterfly were found on marshy ground between 400 and 500 metres. The first was on the 5th July and the remainder from the 15th onwards, flying with the next species.

Proclossiana eunomia ossiana Herbst. Found fresh in bogs at low levels on the 26th and 27th June; quite common from the 16th July but worn by then.

Clossiana selene D. & S. A single male, not particularly dark as in f. *hela* Stdgr., was found by the Abiskojakka on the 17th July.

Clossiana euphrosyne L. Only five specimens found on marshy ground at 440 metres on the 15th, 16th and 17th July. They vary in the extent of dark suffusion, only two may be referable to f. *fingal* Herbst.

Clossiana thore borealis Stdgr. One specimen was seen in one of the forest clearings on the eastern side of the Abiskojakka on the 15th July. There were none in the same spot the following day but on the morning of the 17th there was a mass emergence in the birch forest and it was suddenly common. Not only was this the only species to be found actually in the forest where it was feeding from flowers and settling often on the bare leaves, but it was *not* found in the clearings. This seems to be about the 'usual' date of emergence.

Clossiana freija Thunberg. This was the first 'Arctic' butterfly to be found, seen in small numbers in the lower bogs on the 26th June when it was in fresh condition but reluctant to fly in the dull weather unless disturbed. It was found from then on whenever the sun came out but was soon worn, being almost over when I left on the 17th July. Very few were seen higher on the mountain and it seemed almost confined to the low marshes, including at Bjorkliden, Saltdalen and near Kiruna. The colour and contrast of the underside markings vary considerably.

Clossiana frigga Thunberg. Only one individual of this much larger fritillary was seen near the Abiskojakka on the 26th June. Unfortunately, although fresh, it was badly damaged.

Hypodryas iduna Dalman. This is a most attractive species. I found it very locally in marshy areas on the eastern side of the Abisko jakka and very occasionally up to 940 metres on Njulla although it was by no means widespread. It is interesting to see that Henriksen and Kreutzer (1982; p 98) note that the insect has a very short lifespan with only a few days between the emergence of the first male and the disappearance of the last female. I came across it first on the 26th June in fresh condition and again in the same locality after a period of bad weather three weeks later when it was also in fresh condition. It obviously has the ability to delay emergence during unfavourable conditions. The males have a very fast whirring flight and like to bask on low bushes with wings outspread in sunny weather; in cloudy weather however they would often dive into the grass and crawl down to the roots from where it was almost impossible to extract them. No doubt this has a bearing on the fact that individuals become worn very quickly. I saw only five females and they seemed reluctant to fly at all. The males exhibit much variation and I found several with greatly reduced white markings on the hind wings.

Oenis norna Thunberg. A single specimen, well past its best, was found on my last morning (17th July) about three kilometres along the bank of the Abiskojakka. Other have found it quite commonly here so I suspect I was not looking in the right place.

Erebia pandrose Borkhausen. This was the most ubiquitous species seen and also the most hardy, often seen flying over the snow and willing to be flushed up in overcast weather. It became increasingly common during my stay. I was very disappointed not to see any of the other Arctic *Erebia.*

Lycaeides idas lapponicus Gerhard. Two males of this species were seen near the Tourist Station on the 15th July and a third male alongside the Abiskojakka two days later.

Vacciniina optilete Knoch. A single male was disturbed in poor weather in a marshy clearing in the birch forest on the 26th June. During the sunny weather towards the end of my stay both sexes became common in the clearings.

Pyrgus andromedae Wallengren. One specimen was found on moist ground on 27th June and a further two on the 14th July.

Pyrgus centaureae Rambur. A single specimen was found on Mount Njulla on the 14th of July.

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ECTROPIS BISTORTATA GOEZE (LEP.: GEOMETRIDAE) THIRD BROOD— Two males were attracted to my garden m.v. light 2.x.1987; the second generation here lasted about five weeks, specimens being seen from 14.vii. until 22.viii. The few supposed third brood individuals I have observed here, and I have not encountered them elsewhere, resemble those of the smaller and less well marked second generation, although their markings are even more obscure.

That these late individuals are representatives of a partial third brood is evidenced, apart from possible climatic factors, by the distinct gap between their emergence and that of the second brood, their size and appearance and the readiness with which a third generation is obtained in captivity, yet the viability of an extra brood is surely doubtful as the insect hibernates in the pupal state, and the lower temperatures of autumn would seem to preclude the larvae developing sufficiently rapidly to attain maturity before leaf-fall or the inception of winter.

Records of these late emergences certainly need to be published in order to ascertain their frequency and distribution; at present they appear sporadic, and have been so for over fifty yeares, but a subtle change of climate might alter considerably this tendency to produce a few specimens of a third generation in part of the insect's range. B.K. WEST, 36 Briars Road, Dartford, Kent.